FIG.1A

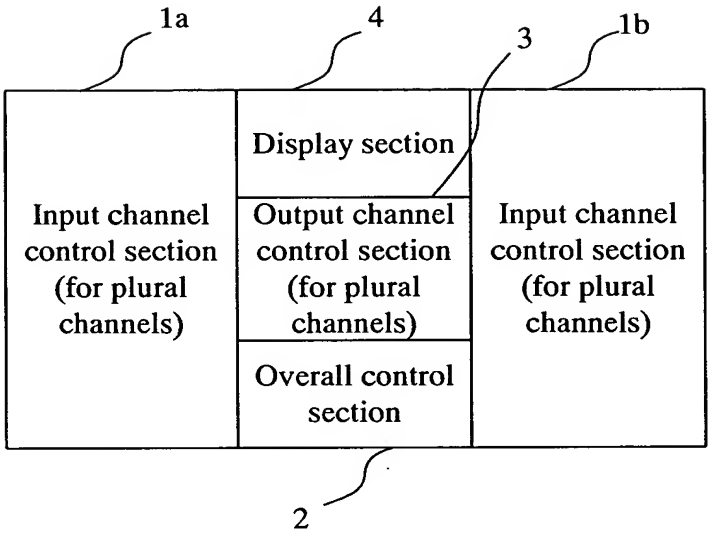


FIG.1C

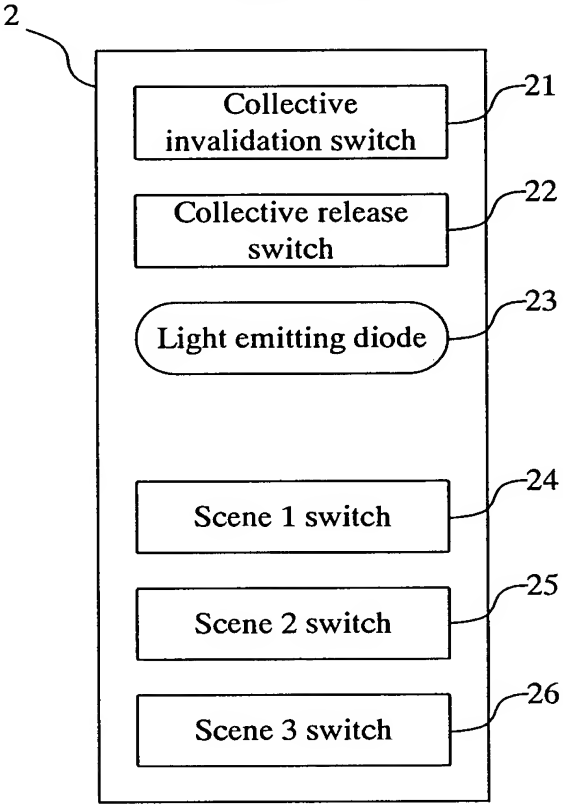


FIG.1B

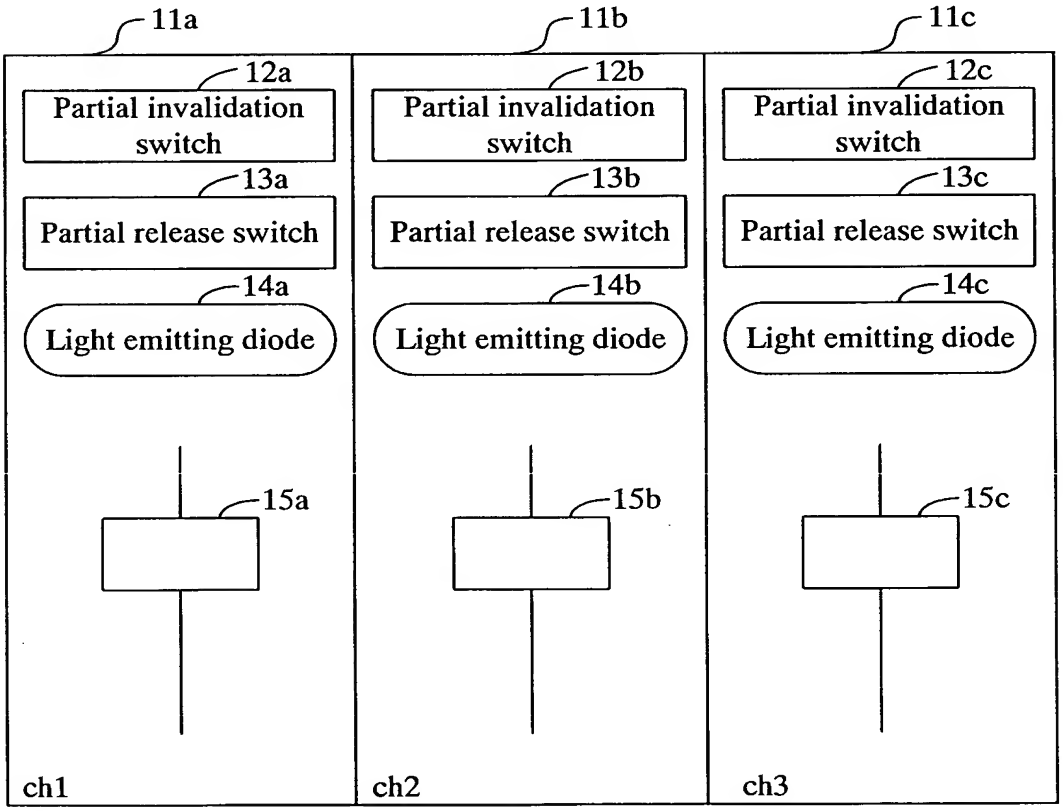


FIG.2A

ch1	off
ch2	off
ch3	off
ch4	off
ch5	off

FIG.2B

ch1	on
ch2	on
ch3	on
ch4	off
ch5	off

FIG.2C

ch1	off
ch2	off
ch3	off
ch4	off
ch5	off

FIG.3

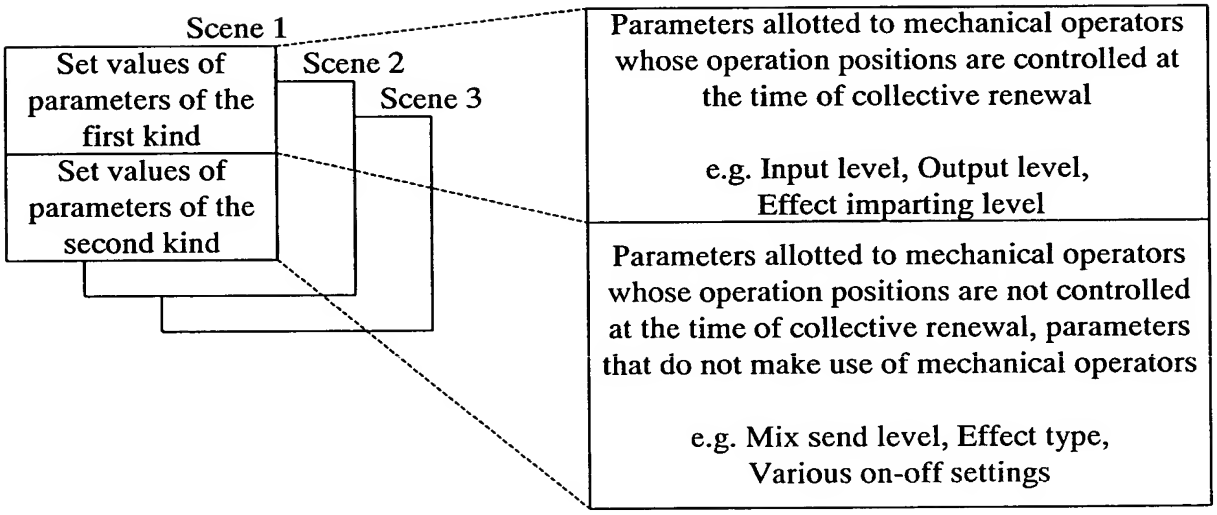


FIG.4

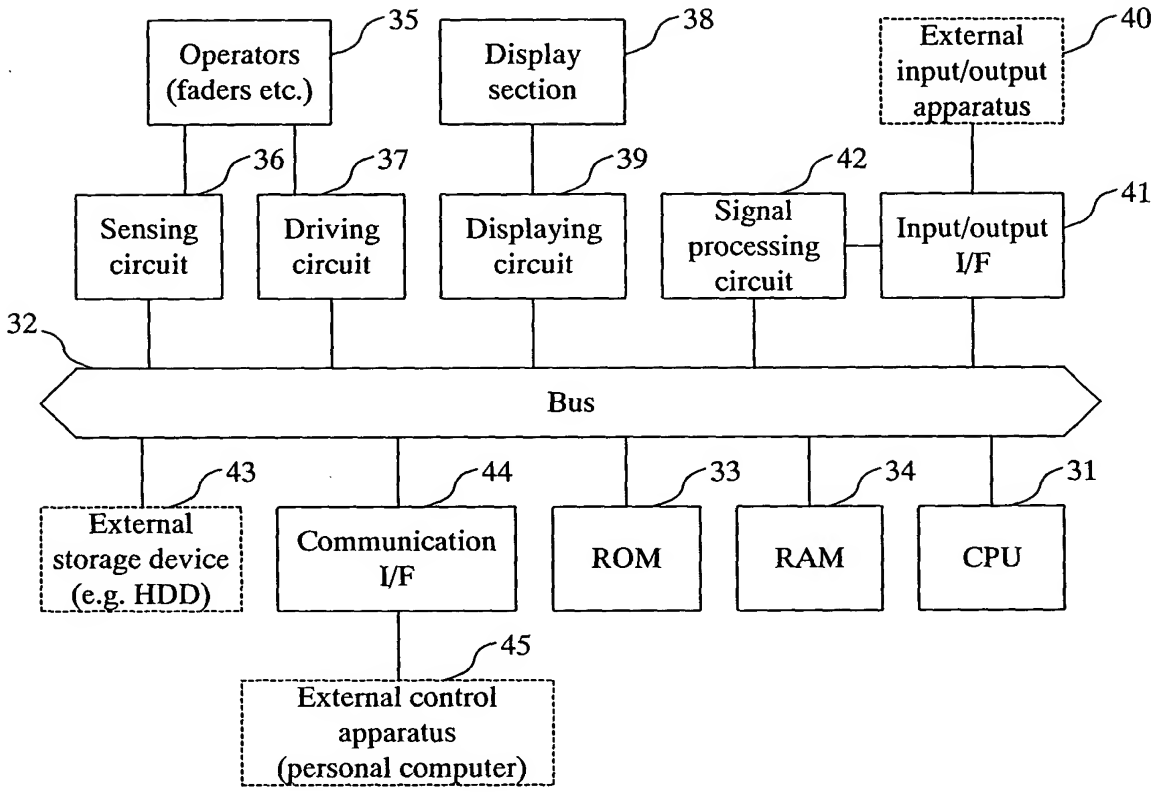

Operators (faders etc.)
35
Display section
38
External input/output apparatus
40
36
37
39
42
Sensing circuit
Driving circuit
Displaying circuit
Signal processing circuit
Input/output I/F
41
32
Bus
43
44
33
34
31
External storage device (e.g. HDD)
Communication I/F
ROM
RAM
CPU
45
External control apparatus (personal computer)

FIG.5

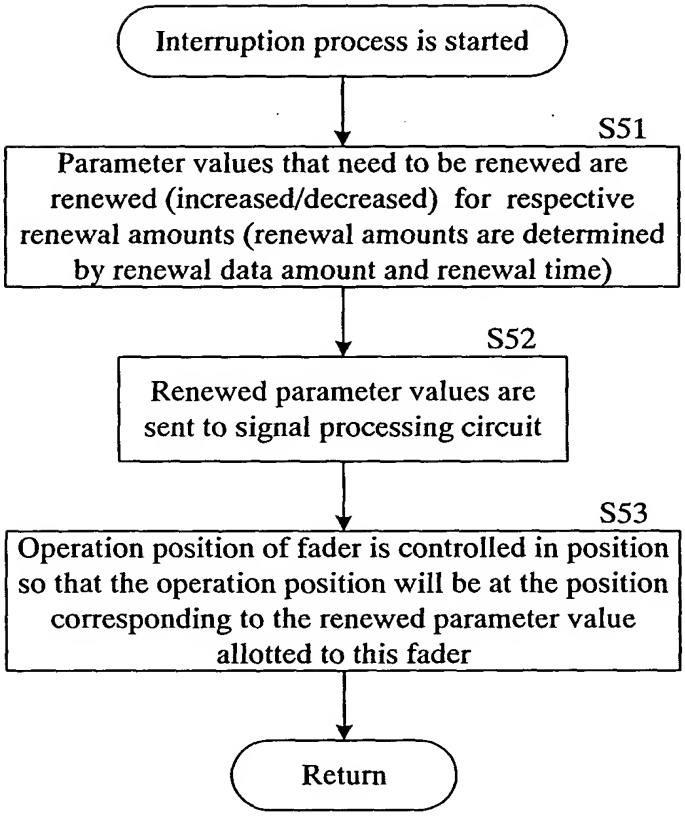

Interruption process is started
S51
Parameter values that need to be renewed are renewed (increased/decreased) for respective renewal amounts (renewal amounts are determined by renewal data amount and renewal time)
S52
Renewed parameter values are sent to signal processing circuit
S53
Operation position of fader is controlled in position so that the operation position will be at the position corresponding to the renewed parameter value allotted to this fader
Return

FIG.6A

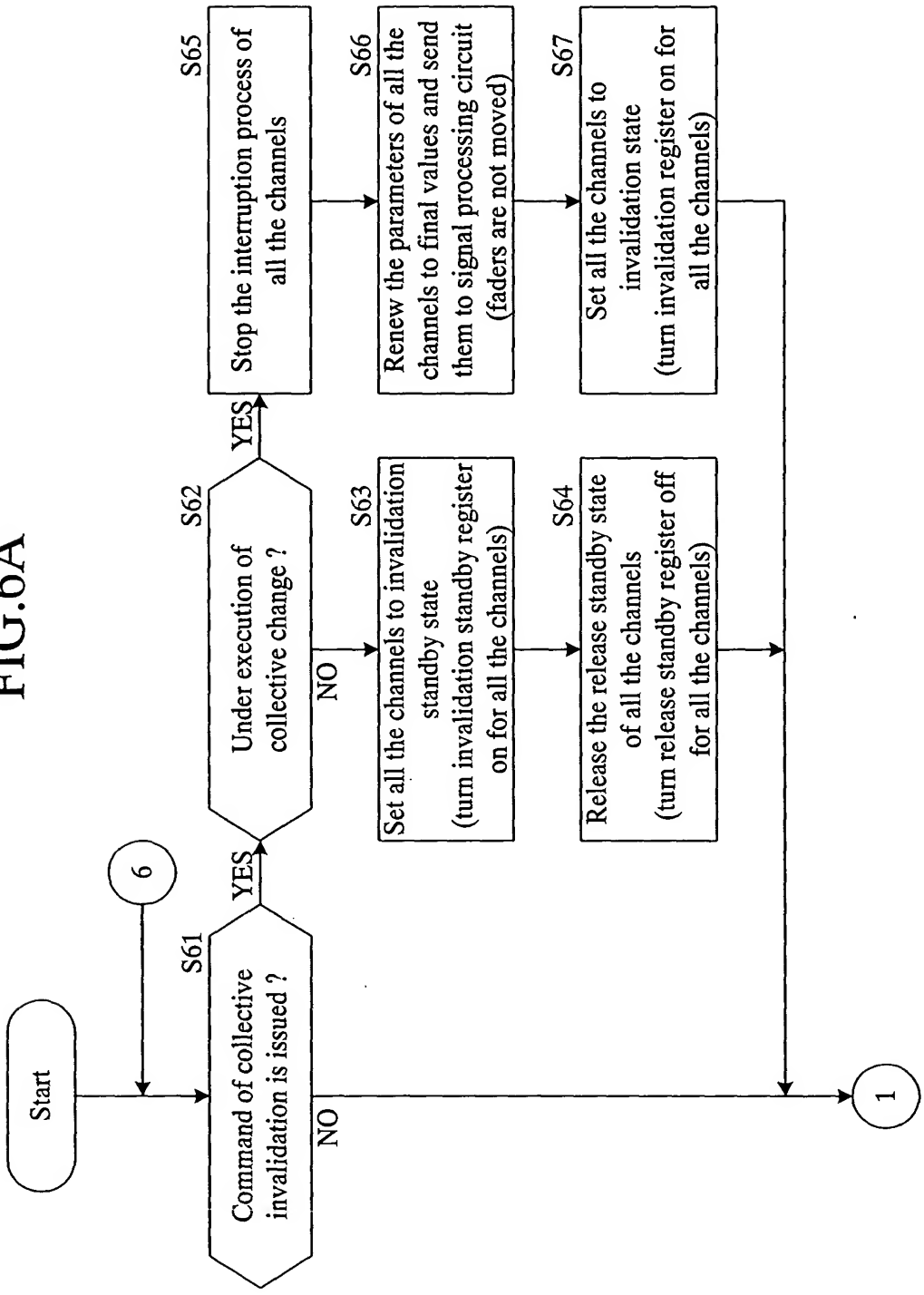

Start
6
S61
Command of collective invalidation is issued ?
YES
NO
S62
Under execution of collective change ?
YES
NO
S63
Set all the channels to invalidation standby state (turn invalidation standby register on for all the channels)
S64
Release the release standby state of all the channels (turn release standby register off for all the channels)
S65
Stop the interruption process of all the channels
S66
Renew the parameters of all the channels to final values and send them to signal processing circuit (faders are not moved)
S67
Set all the channels to invalidation state (turn invalidation register on for all the channels)
1

FIG.6B

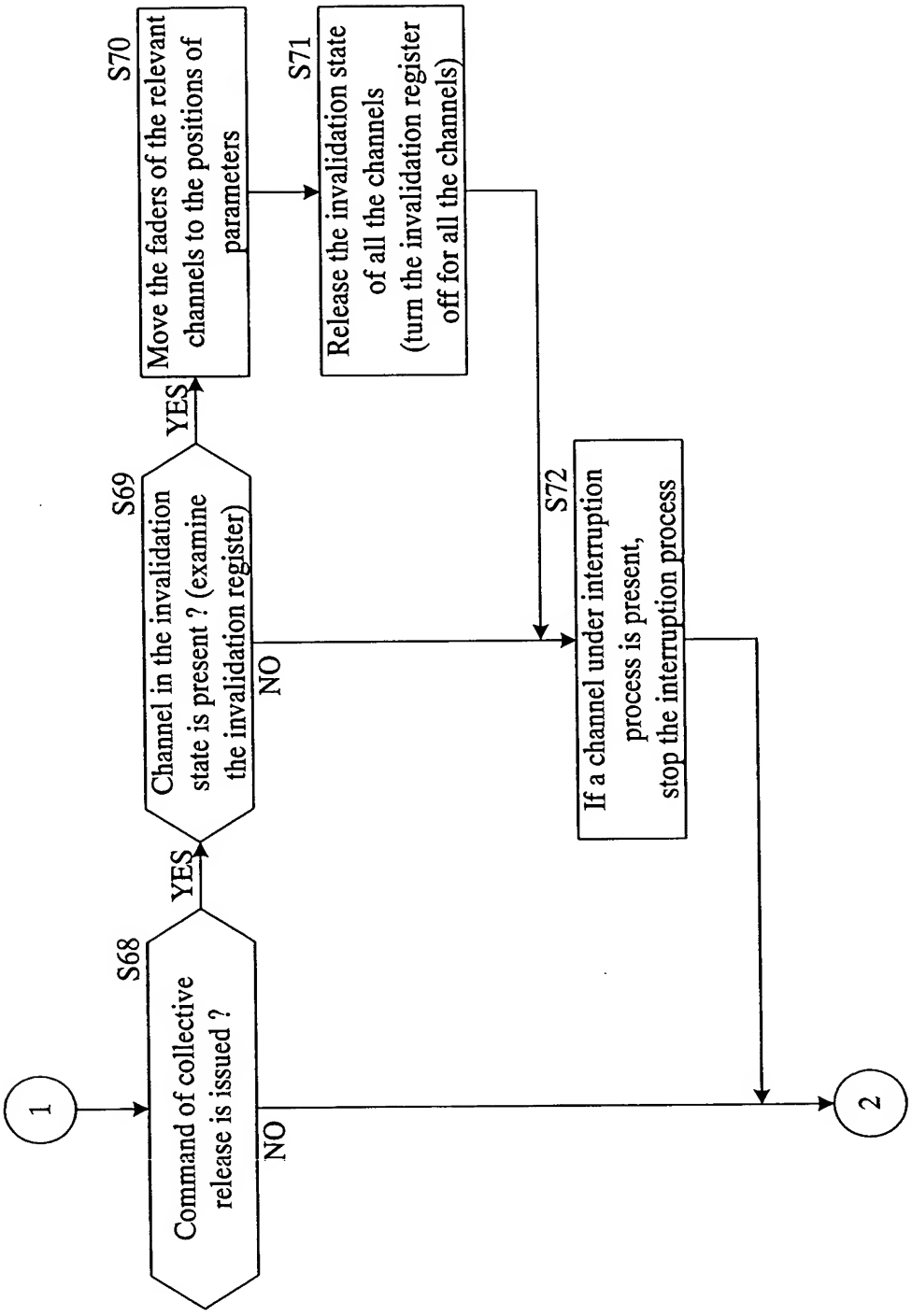

1
S68
Command of collective release is issued ?
YES
NO
S69
Channel in the invalidation state is present ? (examine the invalidation register)
YES
NO
S70
Move the faders of the relevant channels to the positions of parameters
S71
Release the invalidation state of all the channels (turn the invalidation register off for all the channels)
S72
If a channel under interruption process is present, stop the interruption process
2

FIG.6C

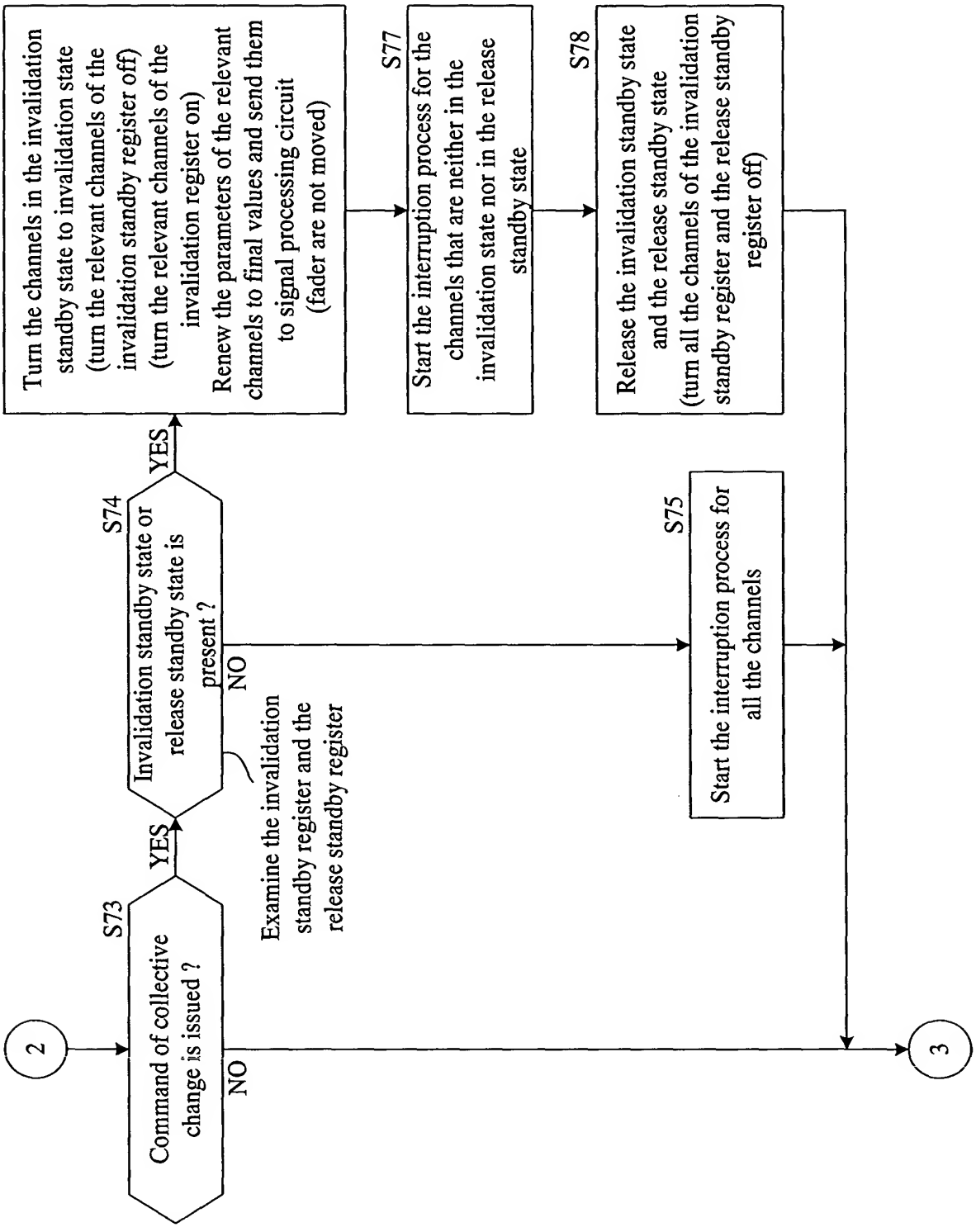

2
S73
Command of collective change is issued ?
YES
NO
S74
Invalidation standby state or release standby state is present ?
YES
NO
Examine the invalidation standby register and the release standby register
S76
Turn the channels in the invalidation standby state to invalidation state (turn the relevant channels of the invalidation standby register off) (turn the relevant channels of the invalidation register on) Renew the parameters of the relevant channels to final values and send them to signal processing circuit (fader are not moved)
S77
Start the interruption process for the channels that are neither in the invalidation state nor in the release standby state
S78
Release the invalidation standby state and the release standby state (turn all the channels of the invalidation standby register and the release standby register off)
S75
Start the interruption process for all the channels
3

FIG.6D

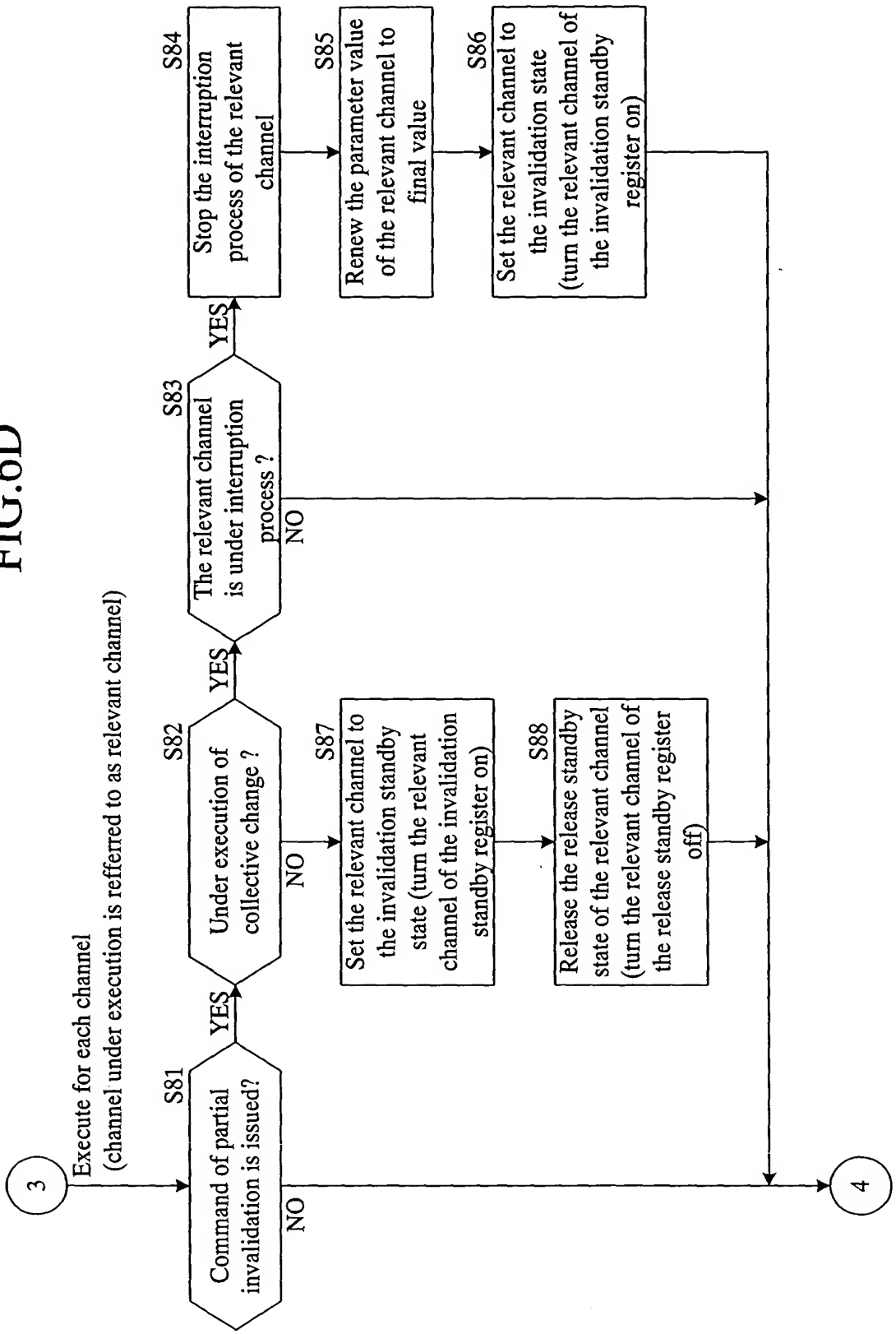

3
Execute for each channel
(channel under execution is refferred to as relevant channel)
S81
Command of partial invalidation is issued?
YES
NO
S82
Under execution of collective change ?
YES
NO
S83
The relevant channel is under interruption process ?
YES
NO
S84
Stop the interruption process of the relevant channel
S85
Renew the parameter value of the relevant channel to final value
S86
Set the relevant channel to the invalidation state (turn the relevant channel of the invalidation standby register on)
S87
Set the relevant channel to the invalidation standby state (turn the relevant channel of the invalidation standby register on)
S88
Release the release standby state of the relevant channel (turn the relevant channel of the release standby register off)
4

FIG.6E

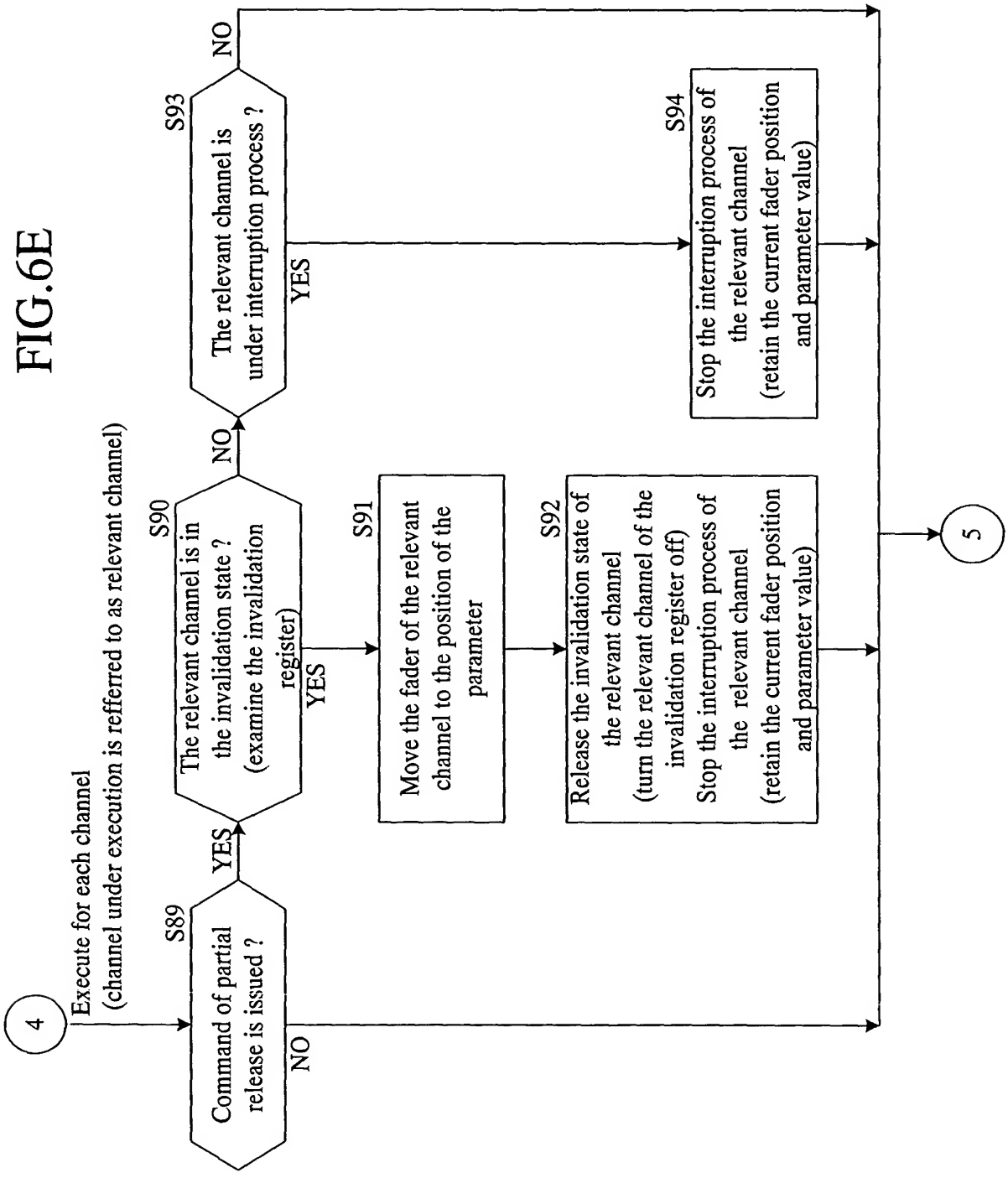

4
Execute for each channel
(channel under execution is refferred to as relevant channel)
S89
Command of partial release is issued ?
YES
NO
S90
The relevant channel is in the invalidation state ?
(examine the invalidation register)
YES
NO
S91
Move the fader of the relevant channel to the position of the parameter
S92
Release the invalidation state of the relevant channel
(turn the relevant channel of the invalidation register off)
Stop the interruption process of the relevant channel
(retain the current fader position and parameter value)
S93
The relevant channel is under interruption process ?
YES
NO
S94
Stop the interruption process of the relevant channel
(retain the current fader position and parameter value)
5

FIG.6F

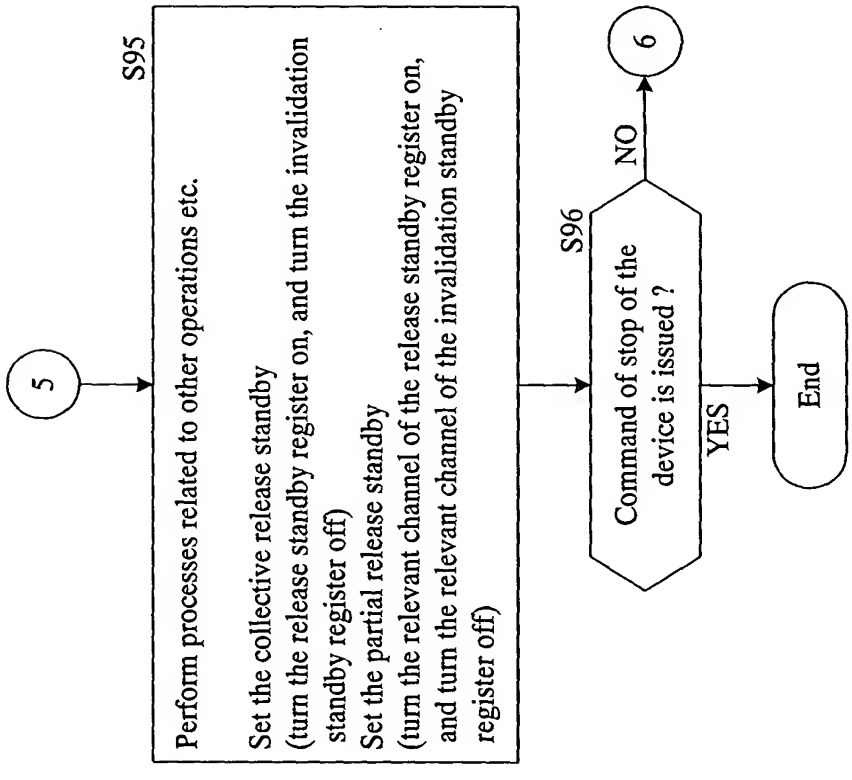
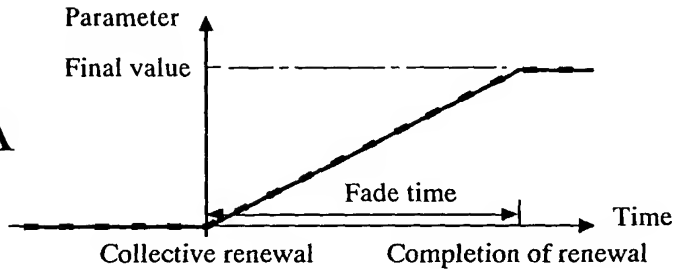

5
S95
Perform processes related to other operations etc.
Set the collective release standby
(turn the release standby register on, and turn the invalidation standby register off)
Set the partial release standby
(turn the relevant channel of the release standby register on, and turn the relevant channel of the invalidation standby register off)
S96
Command of stop of the device is issued ?
NO
6
YES
End

FIG.7A



Solid line: Current value of the parameter

Broken line: Operation position of the fader

FIG.7B

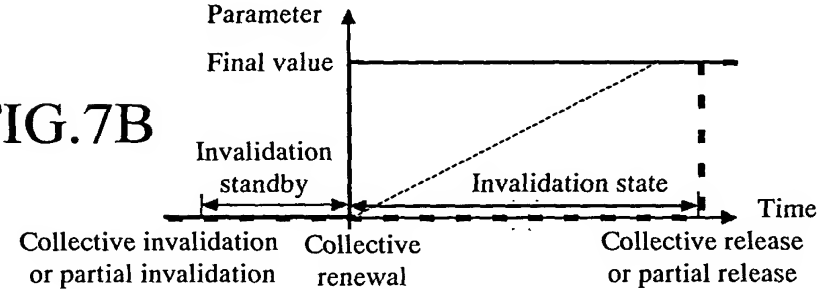


FIG.7C

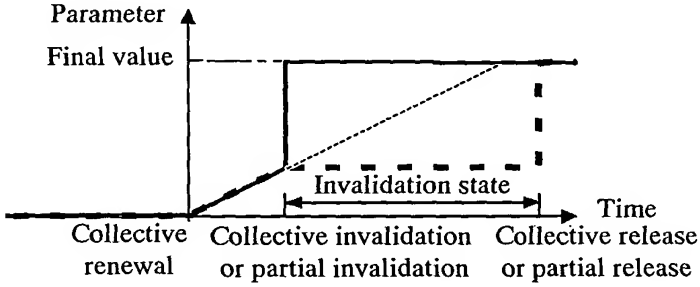


FIG.7D

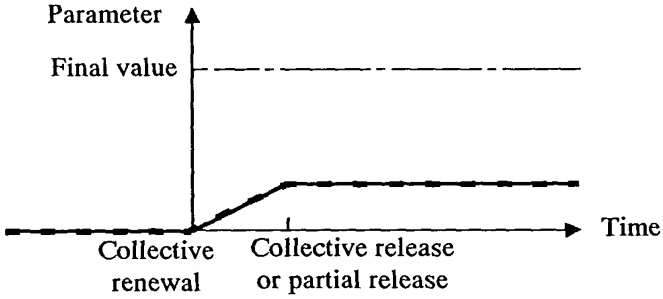
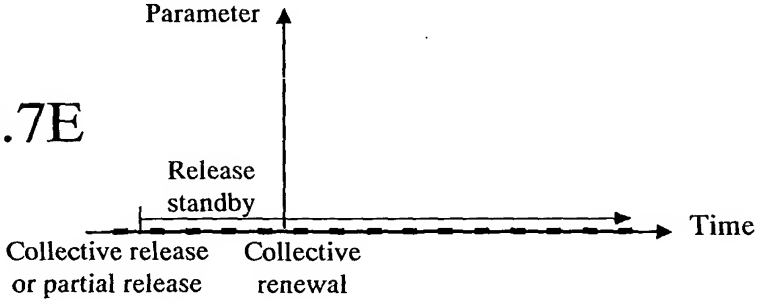



FIG.7E